TECHNICAL CHARACTERISTICS

Fork with Ø32 mm legs with spring and hydraulic rebound damping.

Adjustment of the hydraulic rebound braking through the knob on the top of the right leg.

Adjustment of the air preload on the right leg.

The ETA cartridge in the left leg makes it possible to limit the extension blocking the rebound of the fork.

The stanchion tubes are pressed into the crown with a cryogenic process.

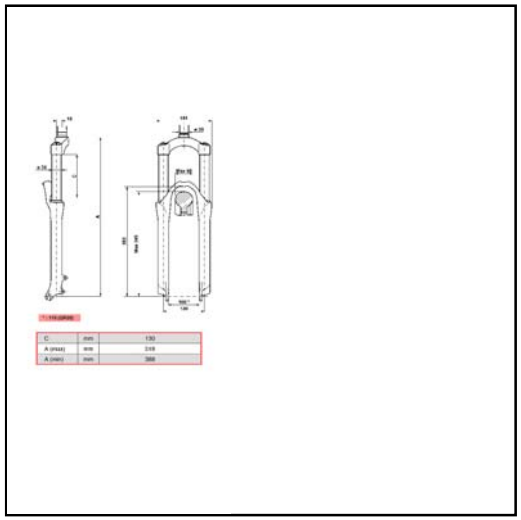
New sliding system to improve the stiffness and operation.

Magnesium alloy cast one-piece assembly, CNC machined for lighter weight and more stiffness.

Components subjected to friction are lubricated and cooled by means of a special oil.

Steer tube: steel or reinforced aluminium, 1-1/8", threadless.

Crown: BAM® aluminium alloy forged and CNC machined.



Stanchions: aluminium.

Springs: constant pitch.

Sliding bushes: made of friction free and wear free material.

Seals: computer designed oil seals that guarantee the maximum seal in any condition.

Oil: special formulated oil that prevents foam and keeps the viscosity unchanged while offering high performance; free from static friction.

Dropout type: Standard or (optional) QR20 Plus in the standard version or in the new "With Bolt" version.

Disk brake mount: XC International Standard for 6" disk.

Options: integrated fender.

BAM®: Bomber Aerospace Material: special alloy coming from the aerospace industry.

Z1 Free Ride	155	155
Z1 Free Ride QR20	155	155
MARZOCCHI cod 55 00 09 SAE 7,5		

Component to be tightened	Tightening Torque (Nm)
Fork leg top caps	20 ± 1
Pumping element locking bottom nuts	11 ± 1
Fender fixing screws	8 ± 1
Wheel axle screws	15 ± 1
Wheel axle Allen screws	10 ± 1
ETA knob fixing screws	2 ± 0,5
Locknut on cap	6 ± 1

INSTRUCTIONS FOR USE

MARZOCCHI forks are based on an advanced technology coming from the company's years long experience in the professional mountain bike industry.

For the best results, it is advisable to inspect and clean the area below the dust seal and the stanchion tube after every use and to lubricate the parts with some silicone oil.

MARZOCCHI forks usually offer the best performances since the very first rides. Notwithstanding this, a short running-in period may be necessary (5-10 hours) to adjust the internal couplings. This precaution will lengthen your fork's life and guarantee its best performances.

Changing the oil every 100 hours is recommended.

The forks with a polished finish must be treated periodically with polishing paste to keep the exterior shining like new.

GENERAL REGULATIONS

· After a complete breakdown, always use new MARZOCCHI seals when reassembling.

· Before reassembly, wash all new and old components and dry them with some compressed air, making sure there are neither breaks nor burrs.

· Never use flammable or corrosive solvents to clean the parts as this could damage the seals. If necessary use specific detergents that are not corrosive, not flammable or have a high flash point compatible with the materials of the seals and preferably biodegradable.

· Before reassembling, always lubricate the parts of the fork in contact with some oil for forks.

· Never pour lubricants, solvents or detergents which are not completely biodegradable in the environment; these must be collected and kept in the relevant special containers, then disposed of in accordance with the regulations in force.

· Always grease the seal lips before reassembling.

· Use only metric spanners and not imperial. Imperial spanners may have similar sizes to metric ones but they can damage the bolts and screws making it impossible to unscrew them.

· Use the right size and sort of screwdriver to unscrew slotted or crosshead screws.

· When using a screwdriver to assemble or dismantle metal stop rings, O-ring seals, guide bushes or seal segments, avoid scratching or cutting the components with the tip of the screwdriver.

· Use only original spare parts.

· Before servicing the fork, we recommend washing the fork thoroughly.

· Work in a clean, ordered and well-lit place.

· Carefully check there are no metal shavings in the work area.

FITTING THE FORK ONTO THE FRAME

The fork is supplied with “A-Head Set” steer tube to be cut according to frame size it will be used on.

Fitting the fork onto the bike frame is a very delicate operation that must be carried out at one of our service centres only.

The assembling on the frame and the adjustment of the steer tube must be carried out following the instructions of the steering set manufacturer.

A wrong installation can be dangerous for the rider.

Marzocchi does not guarantee the assembly and accepts no liability for damage and/or accidents arising from a wrong installation.

The steer tube must be pressed into the crown; its replacement must be carried out by one of our service centres using the adequate tools.

A wrong installation of the steer tube into the crown may cause the rider to lose the control of the bike and lead to serious personal injury.

INSTALLING THE DISK BRAKE SYSTEM

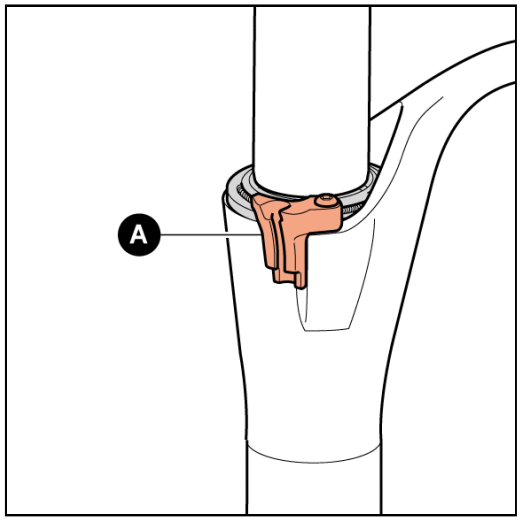
Installing the brake system is a very delicate operation that must be carried out at our specialised service centres only.

Marzocchi does not guarantee the installation and accepts no liability for damage and/or accidents arising from a wrong installation

Improper installation of the disk brake system can overstress the caliper mountings, which may break. The installation of the brake system must be carried out following the instructions of the brake system manufacturer. Improper installation can be dangerous for the rider.

Use only brake systems in accordance with the fork's specifications.

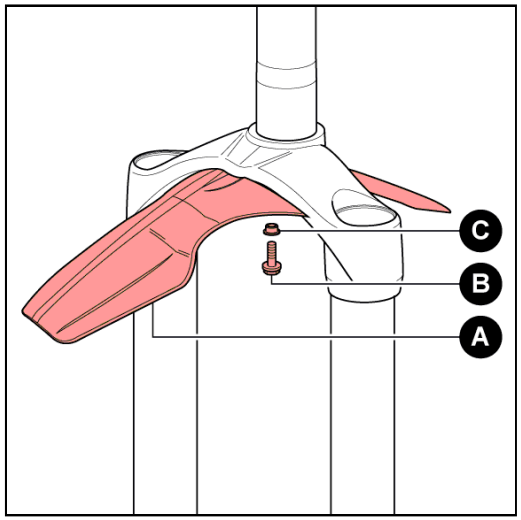
After installation always check that the brake tube is correctly fixed to the special mount (A).



ASSEMBLING THE FENDER

The fender can be supplied with the fork or purchased separately.

Assemble the fender (**A**) by inserting the small support bush (**C**) between the screw and the fender as shown, and by tightening the screws (**B**) with an 8mm hexagonal spanner to the required torque (8±1 Nm).



ASSEMBLING THE WHEEL ON FORKS WITH STANDARD DROPOUTS

Install the wheel following the instructions of the bike's manufacturer.

A good and reliable operation of the fork and all of the parts linked to it mainly depend on the correct fixing of the front wheel.

For a correct operation of the fork, install the wheel as explained below:

Check the correct fork-wheel alignment by fully compressing the fork a few times.

Lift the front wheel above the ground; turn the wheel a few times to verify the correct alignment with the disk brake.

ASSEMBLING THE WHEEL ON FORKS WITH QR20 PLUS DROPOUTS

A good and reliable operation of the fork and all of the parts linked to it mainly depend on the correct fixing of the front wheel.

For a correct operation of the fork, install the wheel as explained below:

· Unlock the locking device on both legs pushing levers (**A**) downwards and opening the small flap (**P**).

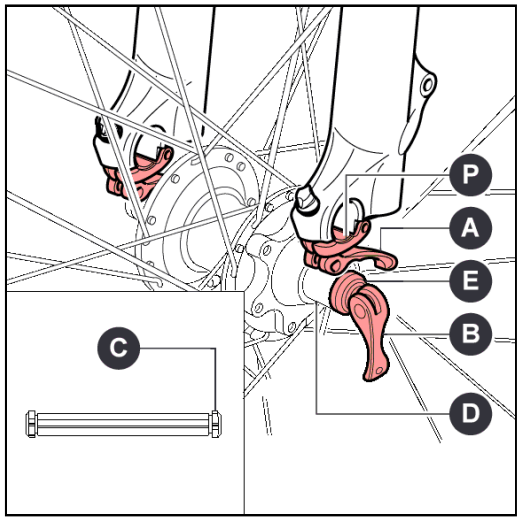
· For quick-release hubs, open the release lever (**B**).

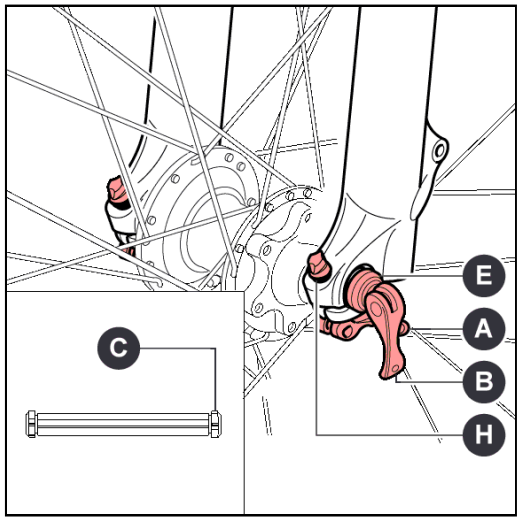
· For hubs with threaded cap, loose cap (**C**) as much as needed to insert the wheel axle through the wheel axle clamps.

· Insert the wheel axle (**D**) into the wheel axle clamps.

· Check that the wheel axle supporting bushes (**E**) are centred in the slider's seat.

· If the wheel axle is equipped with a quick-release system, lock the wheel with the quick-release lever (**B**); otherwise, with a 6mm Allen wrench, tighten the cap to the side of the wheel axle to the recommended tightening torque (see table - Tightening torques).





· Verify the supporting bushes (**E**) stay correctly.

· Check the correct fork-wheel alignment by fully compressing the fork a few times.

the wheel a few times to verify the correct alignment with the disk brake.

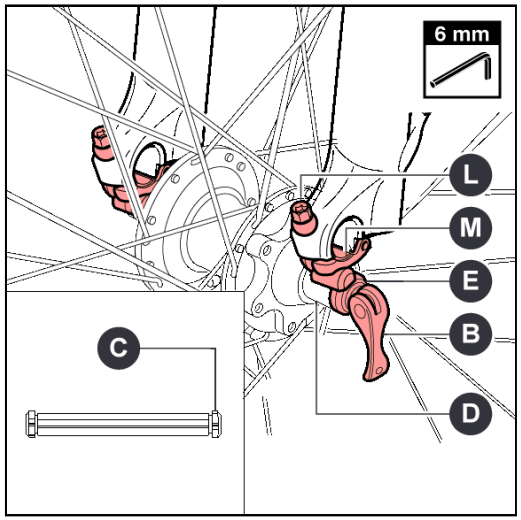
· Lock the locking device pulling levers (**A**) upwards and adjust the clearance with the adjusters (**H**), if necessary.

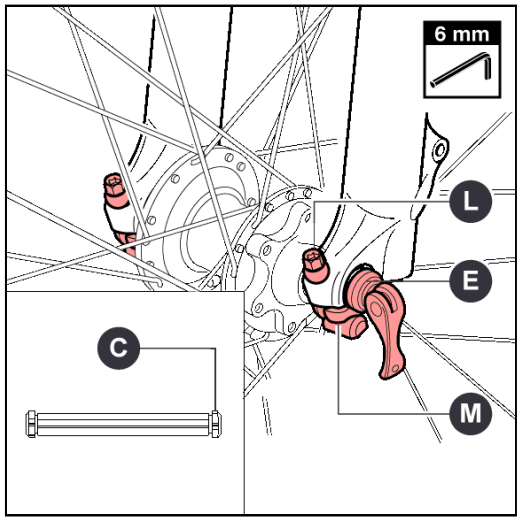
ASSEMBLING THE WHEEL ON FORKS WITH QR20 "WITH BOLT" DROPOUTS

A good and reliable operation of the fork and all of the parts linked to it mainly depend on the correct fixing of the front wheel.

For a correct operation of the fork, install the wheel as explained below:

Using a 6mm Allen wrench, loosen both screws (**L**) and open the locking device (**M**).
For quick-release hubs, open the release lever (**B**).
For hubs with threaded cap, loose cap (**C**) as much as needed to insert the wheel axle through the wheel axle clamps.
Insert the wheel axle (**D**) into the wheel axle clamps.
Check that the wheel axle supporting bushes (**E**) are centred in the slider's seat.
If the wheel axle is equipped with a quick-release system, lock the wheel with the quick-release lever (**B**); otherwise, with a 6mm Allen wrench, tighten the cap to the side of the wheel axle to the recommended tightening torque (see table - Tightening torques).
Verify the supporting bushes (**E**) stay correctly.
Check the correct fork-wheel alignment by fully compressing the fork a few times.
Lift the front wheel above the ground; turn the wheel a few times to verify the correct alignment with the disk brake.





Close the locking device (**M**) and tighten both screws (**L**) with a 6mm Allen wrench.

REMOVING THE TOP CAP – RIGHT LEG

REMOVING THE TOP CAP – LEFT LEG

DRAINING THE OIL

BREAKING DOWN THE CROWN-STANCHION UNIT / ARCH-SLIDER ASSEMBLY

REMOVING THE CARTRIDGE – LEFT LEG

REMOVING THE ETA CARTRIDGE - LEFT LEG

REMOVING THE SEALS

REMOVING THE GUIDE BUSHES

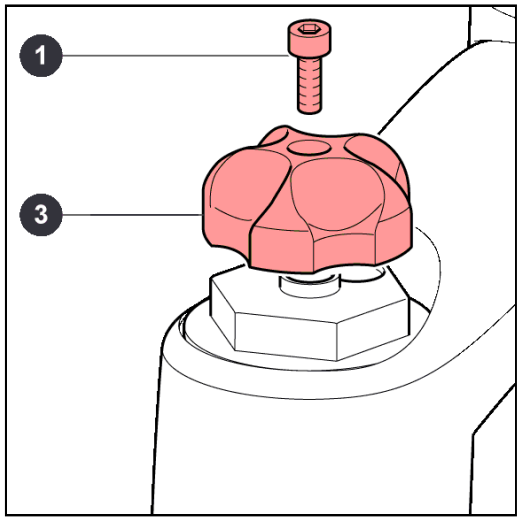
REMOVING THE TOP CAP - RIGHT LEG

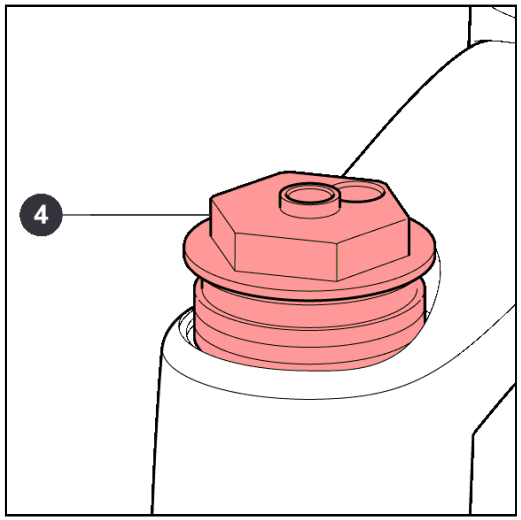
· With a 2mm Allen wrench loosen screw (**1**).

· Remove first the screw (**1**), then the adjusting knob (**3**).

· Fully unscrew the lock cap (**4**), using a 21mm socket spanner.

· Lift out the lock cap (**4**).

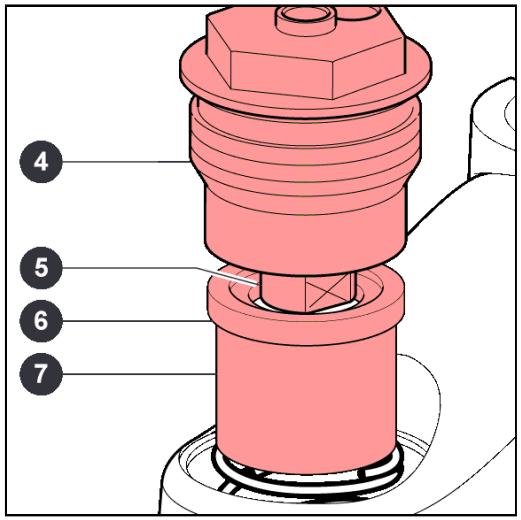


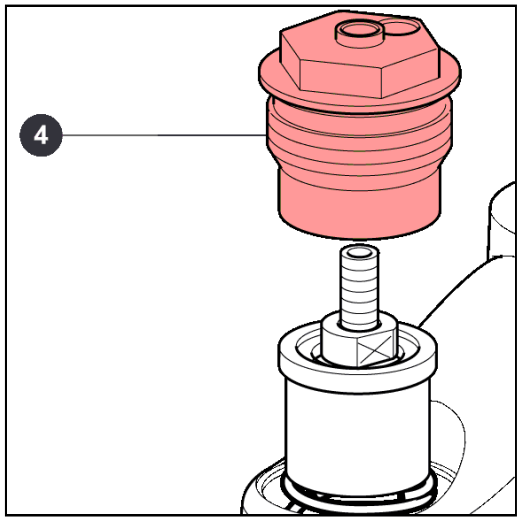


Push washer (**6**) and the preload tube (**7**) downwards so you can reach locknut (**5**) with a 10mm spanner.

· Holding locknut (**5**) with the 10mm spanner, use the 21mm spanner to unscrew the lock cap (**4**) completely.

· Remove the lock cap (**4**).





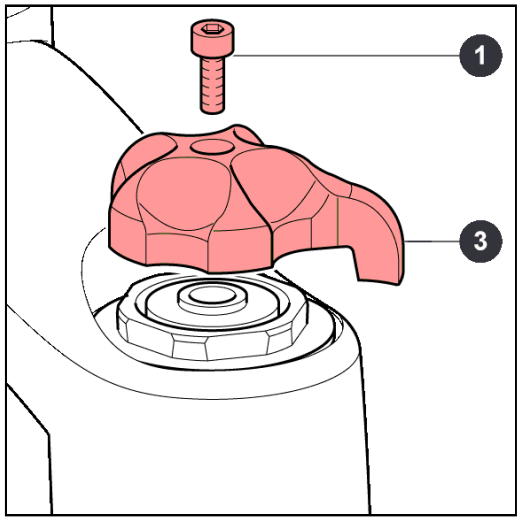
REMOVING THE TOP CAP – LEFT LEG

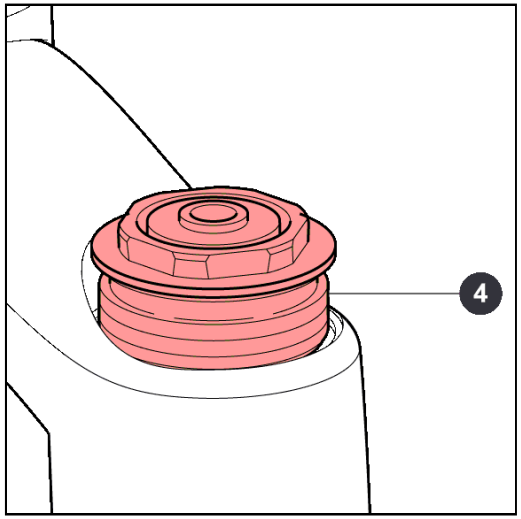
· With a 2mm Allen wrench loosen screw (**1**).

· Remove first the screw (**1**), then the ETA control knob (**3**).

· Fully unscrew the lock cap (**4**) using a 21mm socket spanner.

· Lift out the lock cap (**4**).

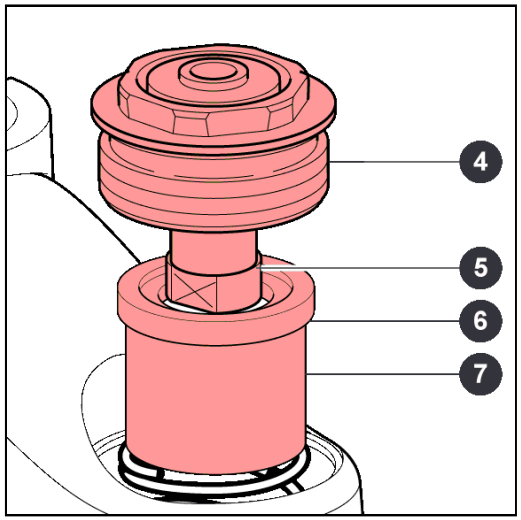


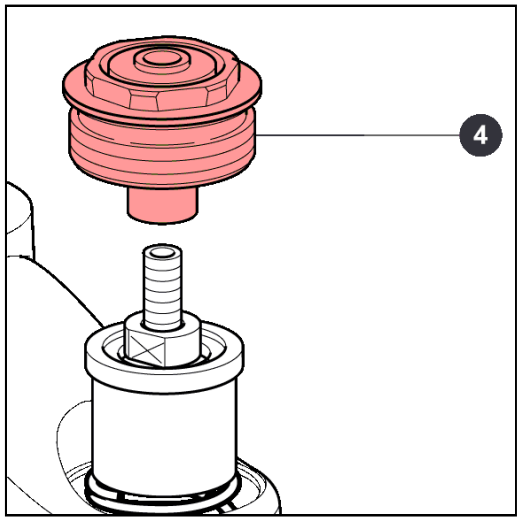


Push washer (**6**) and the preload tube (**7**) downwards so you can reach locknut (**5**) with a 10mm spanner.

· Holding locknut (**5**) with the 10mm spanner, use the 21mm spanner to unscrew the lock cap (**4**) completely.

· Remove the lock cap (**4**).





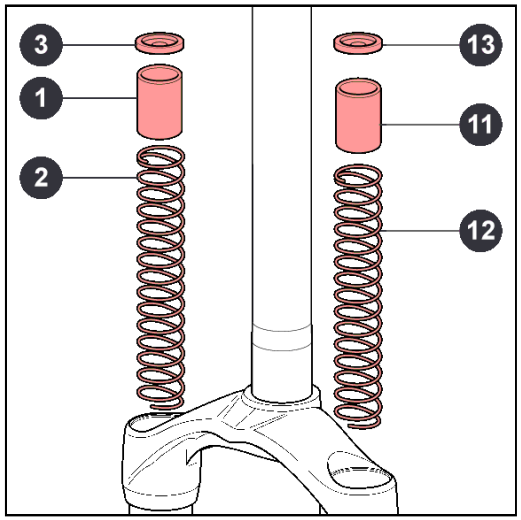
DRAINING THE OIL

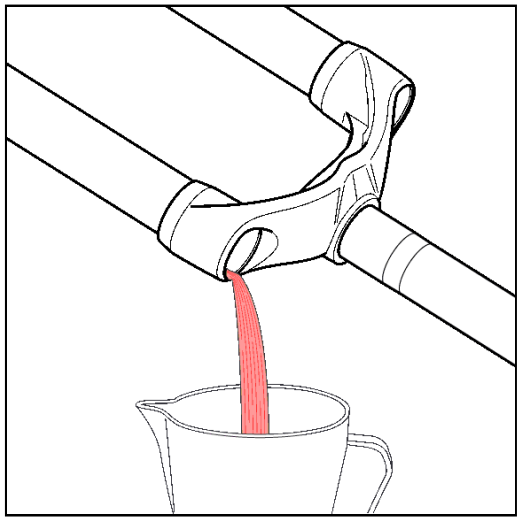
· Remove washer (**3**), the preload tube (**1**) and spring (**2**) from the right leg.

· Remove washer (**13**), the preload tube (**11**), and spring (**12**) from the left leg.

· Free the fork from the vice and tip it into a container of a suitable size to drain the oil; compress the fork a few times to help the oil flow out.

Do not pour used oils on the ground.

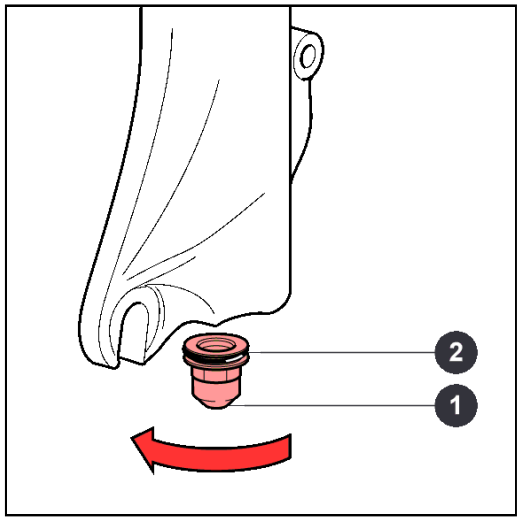


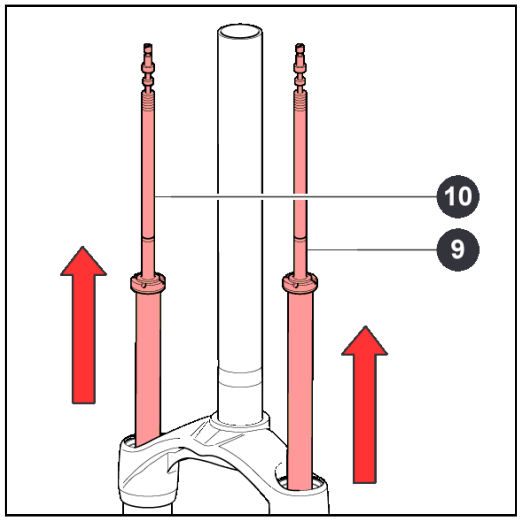


BREAKING DOWN THE CROWN-STANCHION UNIT / ARCH-SLIDER ASSEMBLY

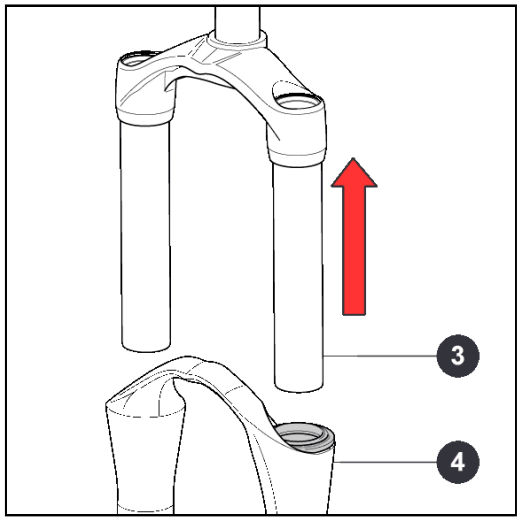
Use the special spanner to remove the bottom nuts. Do not use other tools.

Using the special 12mm spanner (**A**), loosen the two bottom nuts (**1**).
Remove the bottom nuts (**1**) and the O-rings (**2**).
Pull the complete hydraulic cartridge (**10**) off the right leg.
Pull the complete ETA cartridge (**9**) off the left leg.





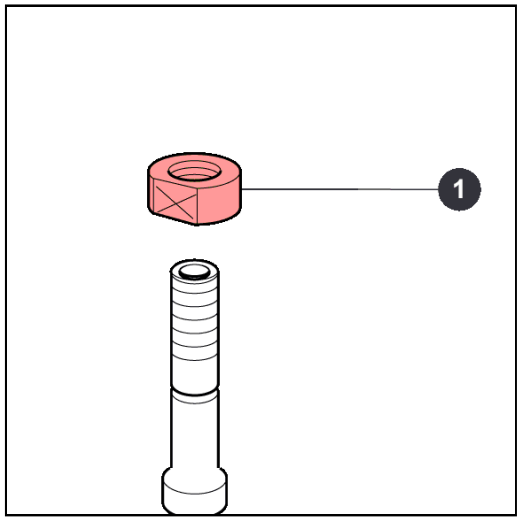
· Pull the crown-stanchion unit (**3**) off the arch-slider assembly (**4**).

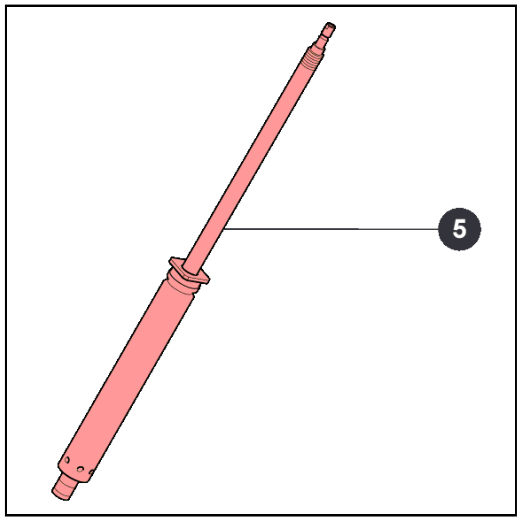


REMOVING THE HYDRAULIC CARTRIDGE - RIGHT LEG

· Loosen and remove nut (**1**) with a 10mm spanner with fixed jaws.

The hydraulic cartridge (5) has been sealed through machining and cannot be overhauled. In the case of faults or a malfunctioning, this cartridge must be replaced.

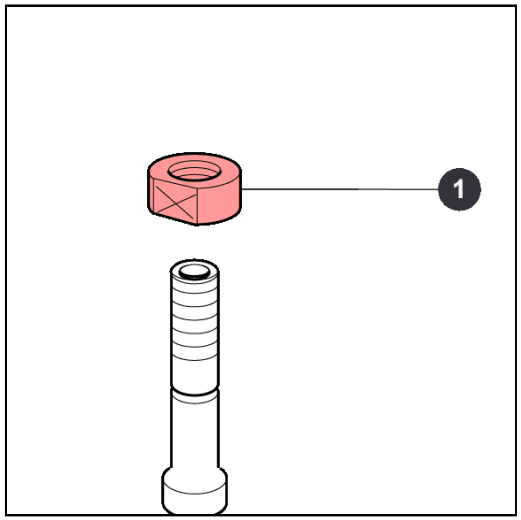


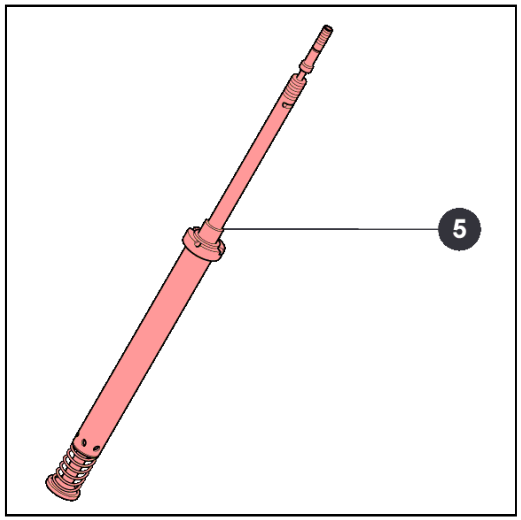


REMOVING THE ETA CARTRIDGE - LEFT LEG

· Loosen and remove nut (**1**) with a 10mm spanner with fixed jaws.

The ETA cartridge (5) has been sealed through machining and cannot be overhauled. In the case of faults or a malfunctioning, this cartridge must be replaced.



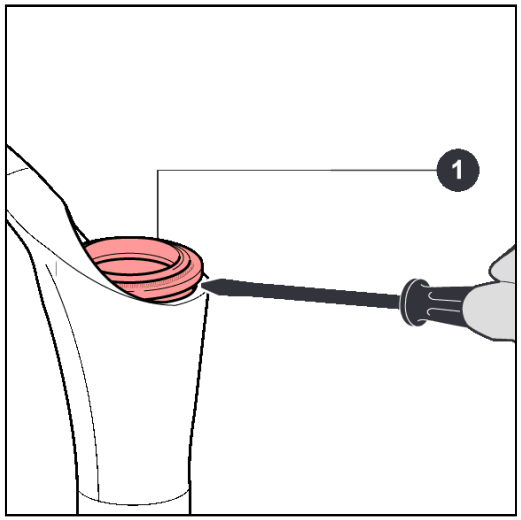


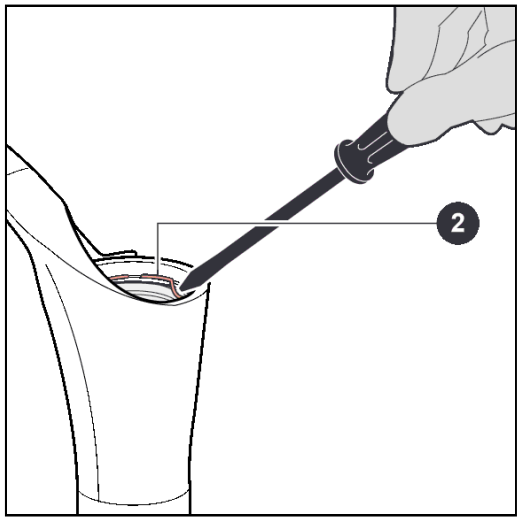
REMOVING THE SEALS

· Remove the dust seal (**1**) from its seat, using a small flat-tip screwdriver.

· With the same screwdriver prize off the metal stop ring (**2**).

Take great care not to damage the internal surfaces of the arch-slider assembly when removing the dust seal and the stop ring.



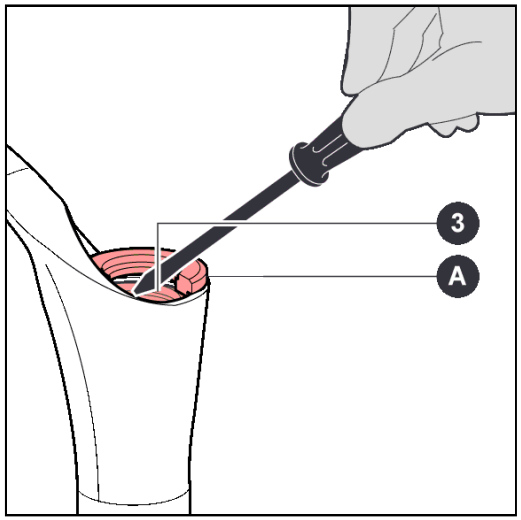


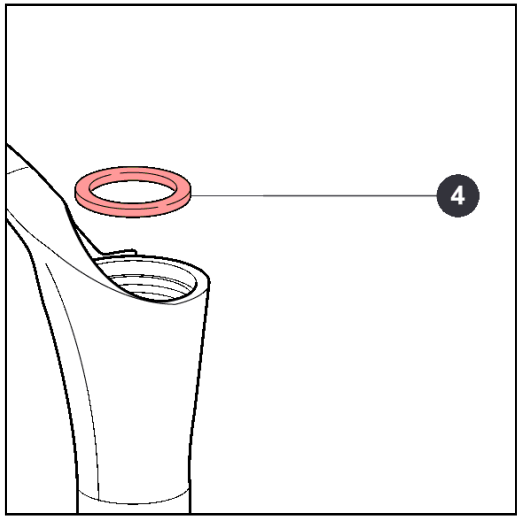
Protect the upper part of the slider with the special tool (**A**).
With a screwdriver prize the sealing ring (**3**) off.
Remove the sealing ring (**3**).

Take great care not to damage the internal surfaces of the arch-slider assembly when removing the sealing ring.

The old sealing rings and dust seals must not be used again.

Remove the spring cup (**4**).



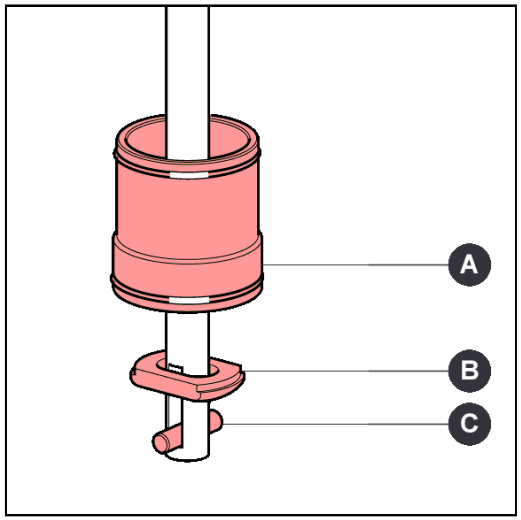


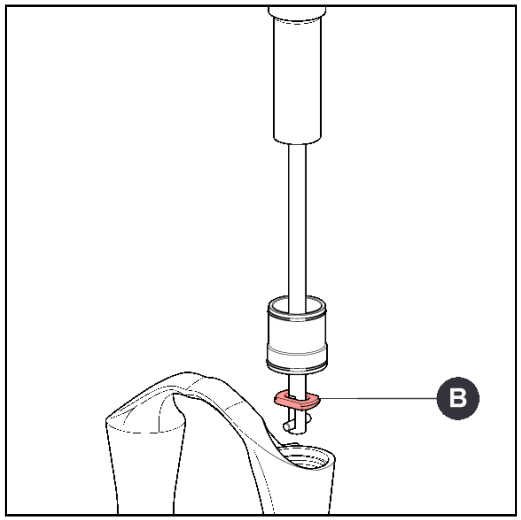
Protect the upper part of the slider with the special tool (**A**).
With a screwdriver prize the sealing ring (**3**) off.
Remove the sealing ring (**3**).

Take great care not to damage the internal surfaces of the arch-slider assembly when removing the sealing ring.

The old sealing rings and dust seals must not be used again.

Remove the spring cup (**4**).





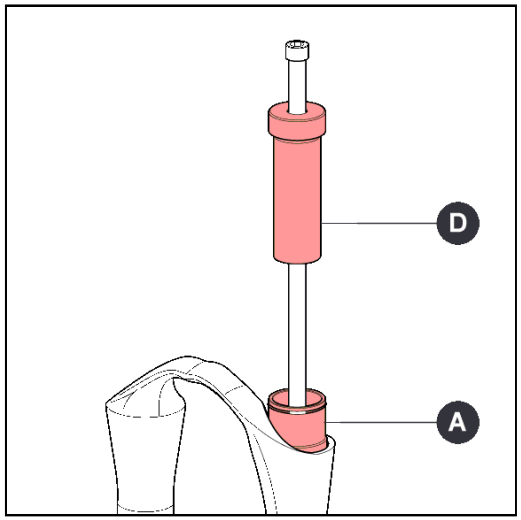
REMOVING THE GUIDE BUSHES

Use the special extractor to remove the guide bushes. Do not use other tools.

Fit the aluminium bush (**A**) to the extractor keeping the large diameter side towards the edge opposite to the striker.
Fit the extraction washer (**B**) with a black finish to the extractor.

During use, remove the non-used washer from the extractor.

Remove first the top bushes, then the bottom bushes.

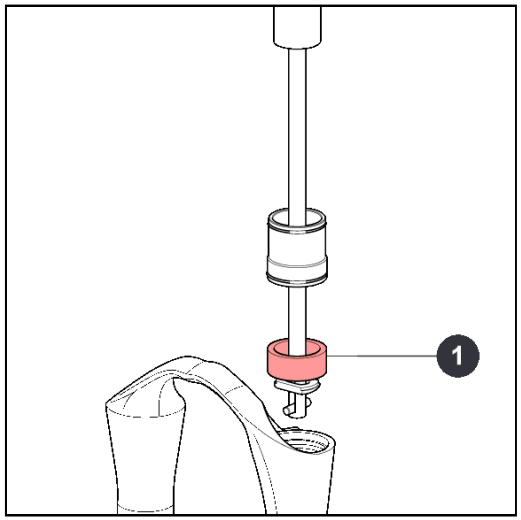


Fit the extraction washer keeping the blunt side towards the threaded grubscrew (**C**) fixed crosswise on to the main rod as shown.

The slot in the rod lets the extraction washer swing inside the rod itself.

Insert the extractor in the arch-slider assembly from the side of washer (**B**) as shown.

The slot in the extractor rod will let the washer pass underneath the bush to be extracted.



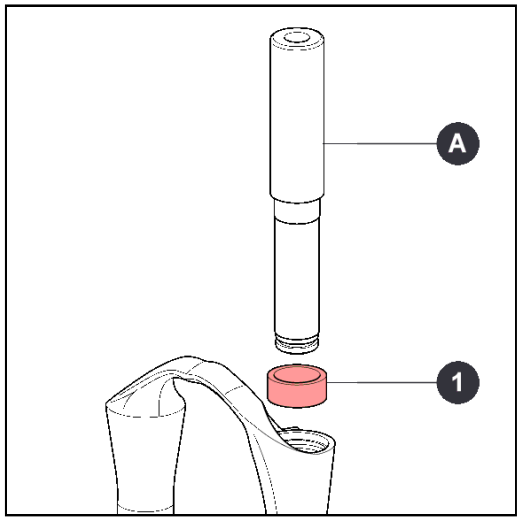
ASSEMBLING THE GUIDE BUSHES

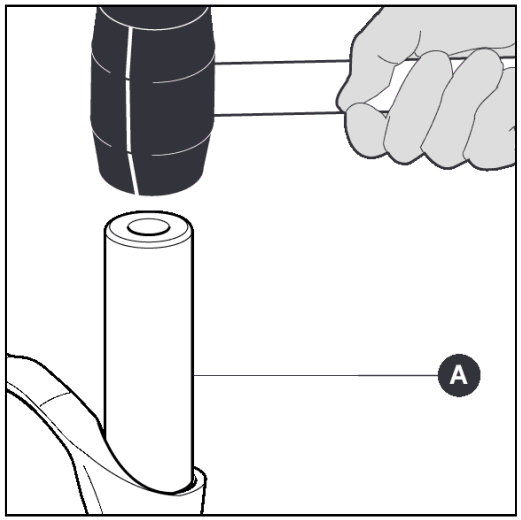
ASSEMBLING THE GUIDE BUSHES

Insert the guide bushes using the special introducers (short type for the top bush and long type for the bottom bush, both with a white finish). Do not use other tools.

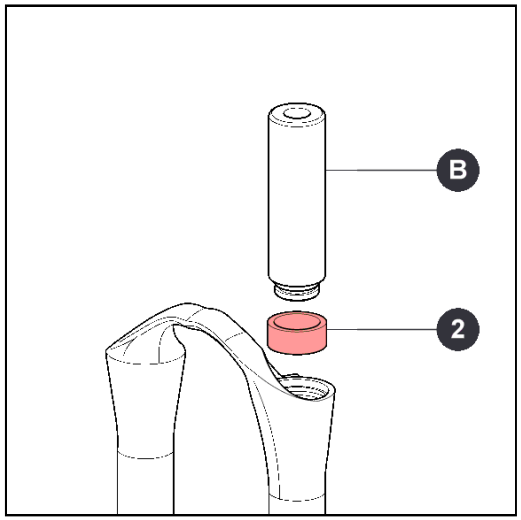
Fit first the bottom bushes, then the top bushes.

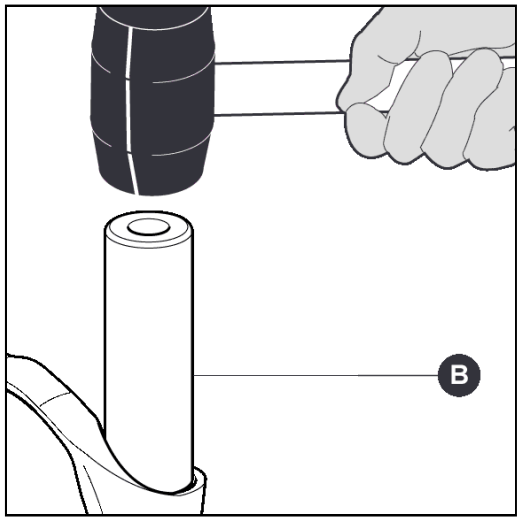
Using the long introducer (**A**) fit the bottom bush (**1**).
Using a hammer knock the introducer (**A**) into the arch-slider assembly.





Using the short introducer (**B**) fit the top bush (**2**).
Using a hammer knock the introducer (**B**) into the arch-slider assembly.





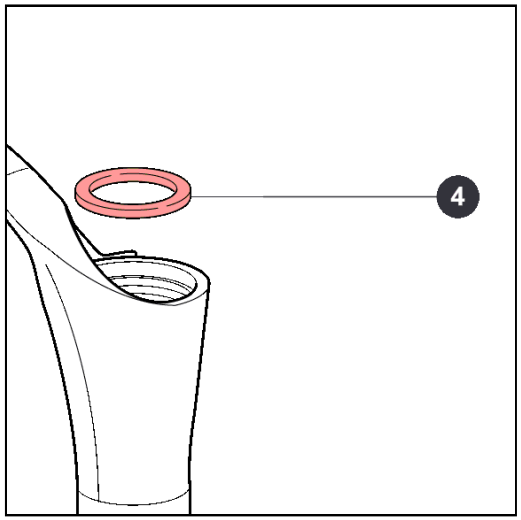
ASSEMBLING THE SEALS

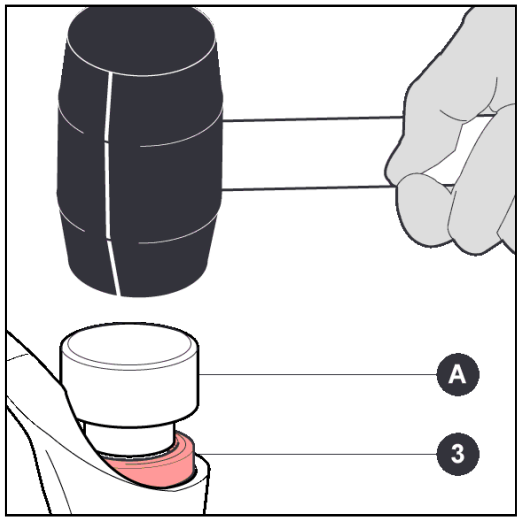
· Fit the dust seal (**4**) in its seat.

· Smear the dust seal and the sealing ring with some grease.

· Refit the sealing ring (**3**) using the special introducer (**A**).

· Using a hammer knock in the introducer (**A**) and drive the sealing ring home into the arch-slider assembly.

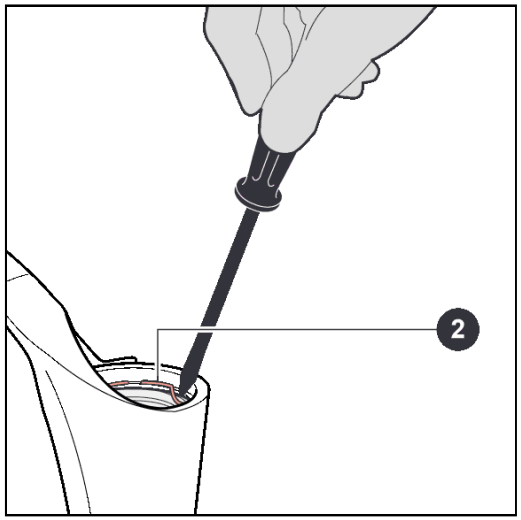




· With a small tip screwdriver mount the stop ring (**2**) and check it fits perfectly into its groove.

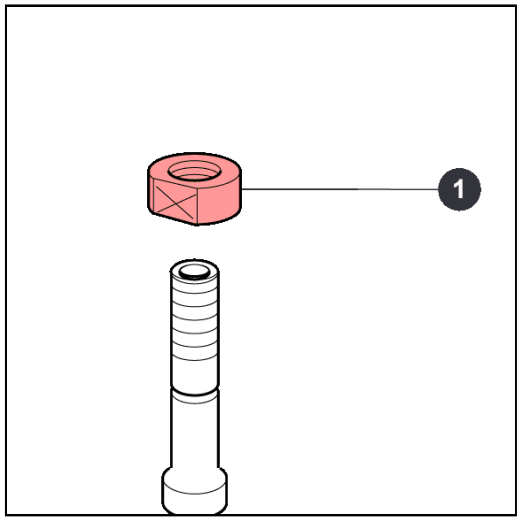
Take great care not to damage the internal surfaces of the arch-slider assembly when fitting the stop ring.

· The dust seals shall be refitted when reassembling the crown-stanchion unit / arch-slider assembly.



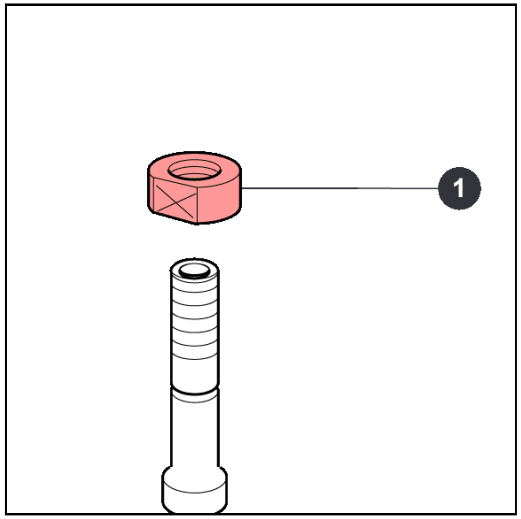
MOUNTING THE HYDRAULIC CARTRIDGE - RIGHT LEG

· Screw down nut (**1**) without tightening.



ASSEMBLING THE ETA CARTRIDGE - LEFT LEG

· Screw down nut (**1**) without tightening.

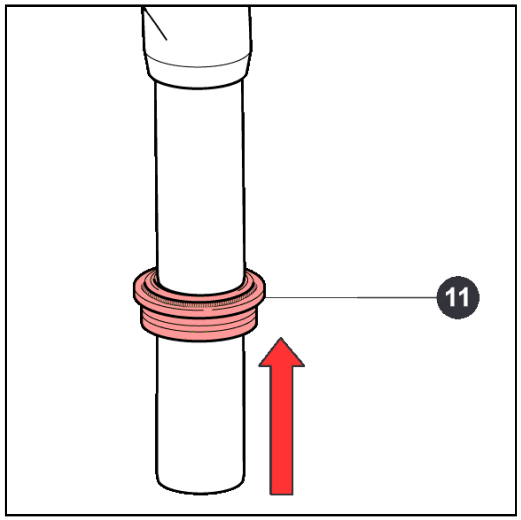


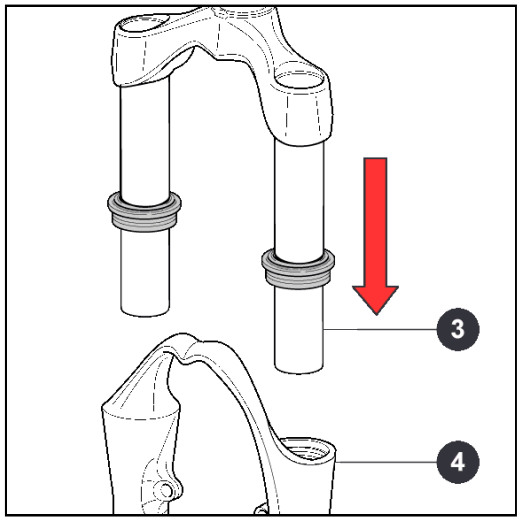
ASSEMBLING THE CROWN-STANCHION UNIT / ARCH-SLIDER ASSEMBLY

A special spanner shall be used to assemble the bottom nut. Do not use other tools.

· Fit the dust seals (**11**) to the stanchions.

· Insert the crown-stanchion unit (**3**) in the arch-slider assembly (**4**).

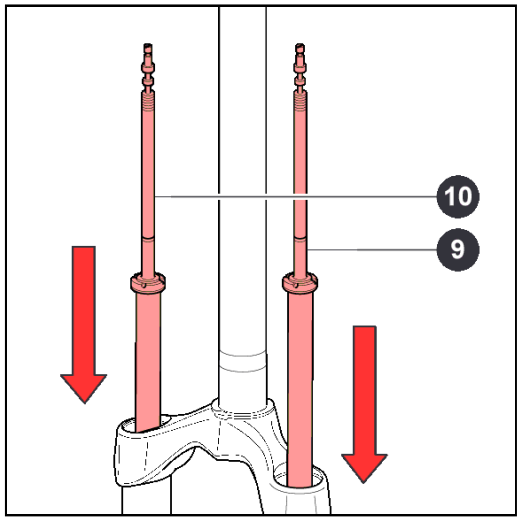


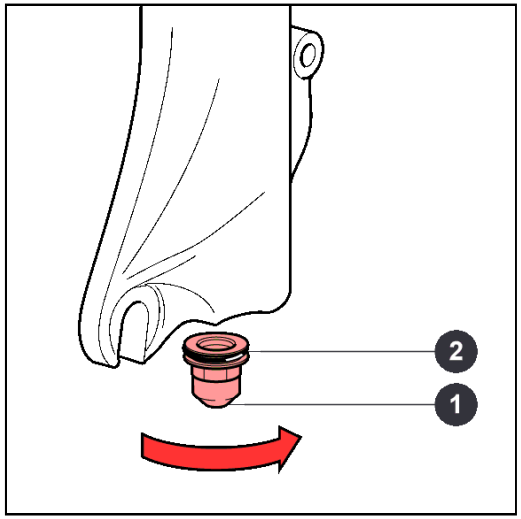


· Fit the complete hydraulic cartridge (**10**) in the right leg.

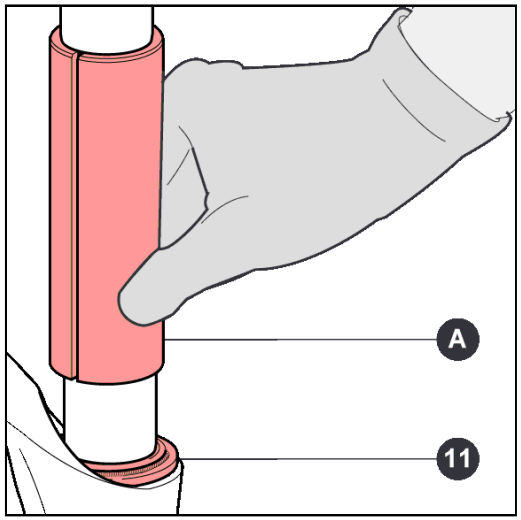
· Fit the complete ETA cartridge (**9**) in the left leg.

· With the special 12mm spanner (**A**), tighten the bottom nut (**1**) with O-ring (**2**) of both legs to the recommended tightening torque (11 Nm±1).





· Re-assemble the dust seals (**11**) in their seats using the special introducer (**A**).



FILLING WITH OIL

· Put the fork in the vice in vertical position.

· Lower the crown-stanchion unit on the arch-slider assembly.

· Prepare the quantity of oil to pour into the fork leg (see table).

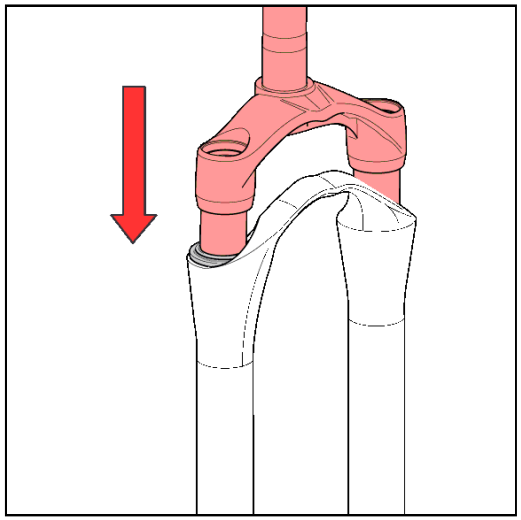
· Pour roughly 1/3 of the oil required into each stanchion, then pump the fork a few times to remove any traces of air.

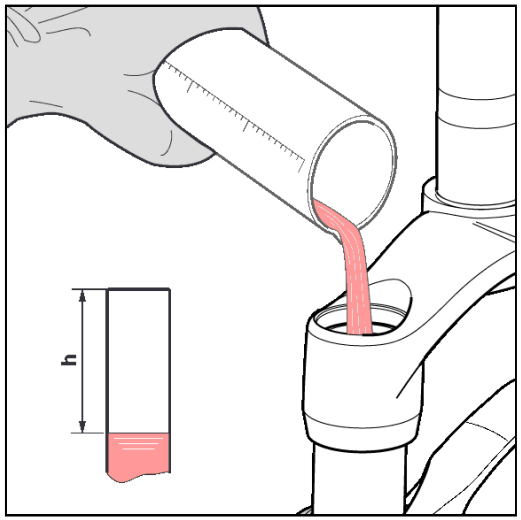
· Pour the rest of the oil in.

· Lower again the crown-stanchion unit on the arch-slider assembly.

· Wait for a few minutes and check the volume of the air (h); if necessary refill to the right level.

A lower or higher volume of air, or a type of oil other than the recommended type can change the behaviour of the fork in every phase.

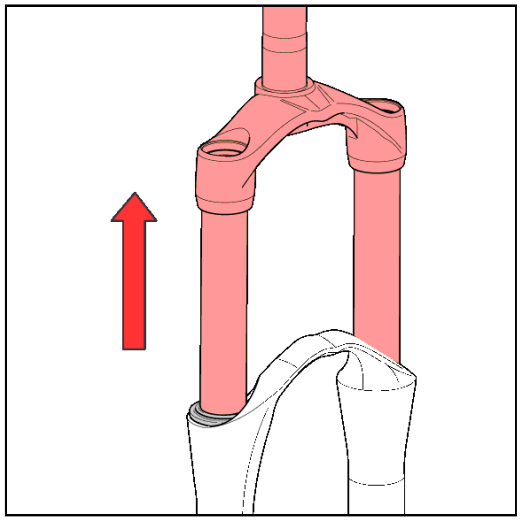


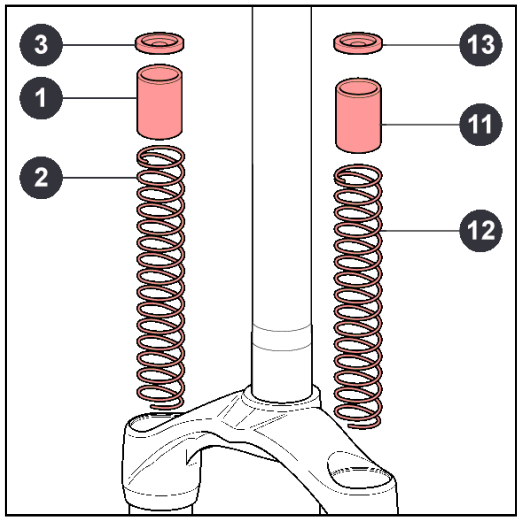


· Lift the crown-stanchion unit on the arch-slider assembly.

· Insert spring (**2**), the preload tube (**1**) and washer (**3**) in the right leg.

· Insert spring (**12**), the preload tube (**11**) and washer (**13**) in the left leg.



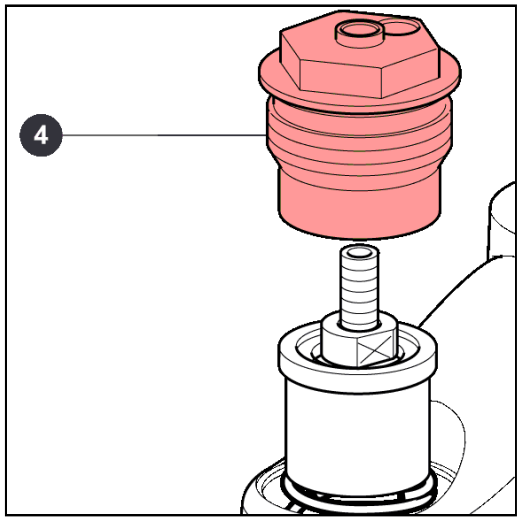


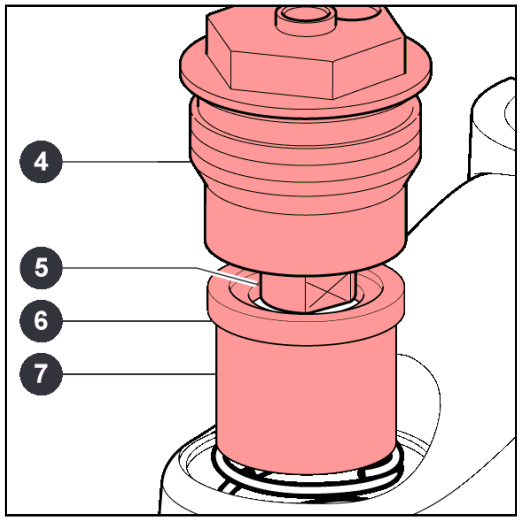
MOUNTING THE TOP CAP - RIGHT LEG

· Screw the lock cap (**4**) down on the cartridge rod without tightening being very careful not to damage the O-ring.

Push washer (**6**) and the preload tube (**7**) downwards so you can reach locknut (**5**) with a 10mm spanner.

· Using the 10mm and 21mm spanners, tighten locknut (**5**) on cap (**4**) to the recommended tightening torque (6 Nm±1).

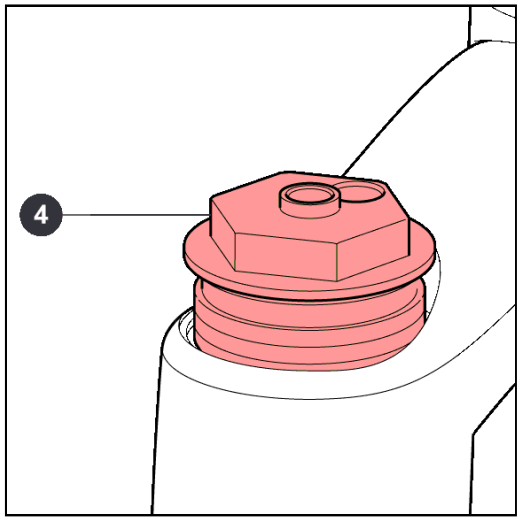


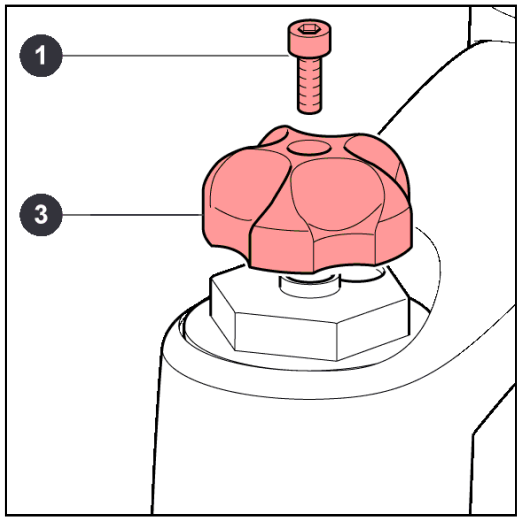


· With the 21mm socket spanner, tighten the lock cap (**4**) on the steering crown to the recommended tightening torque (20 Nm ±1).

· Fit the adjusting knob (**3**) and screw (**1**).

· Using the 2mm Allen wrench, tighten screw (**1**) to the recommended tightening torque (2 Nm ± 0.5).



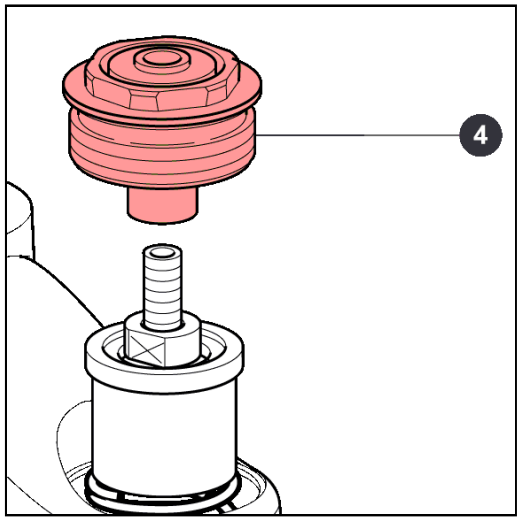


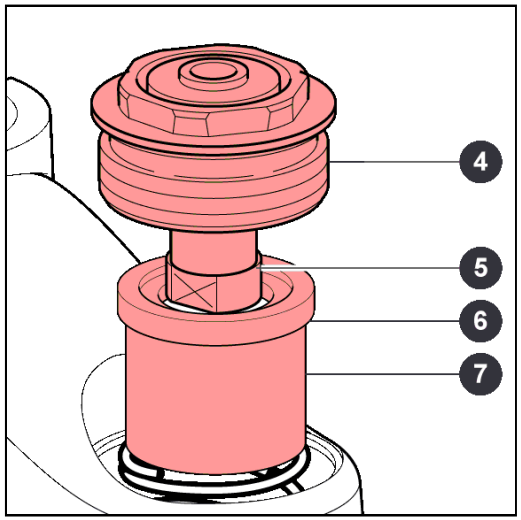
MOUNTING THE TOP CAP – LEFT LEG

· Screw the lock cap (**4**) down on the ETA cartridge rod without tightening being very careful not to damage the O-ring.

Push washer (**6**) and the preload tube (**7**) downwards so you can reach locknut (**5**) with a 10mm spanner.

· Using the 10mm and 21mm spanners, tighten locknut (**5**) on cap (**4**) to the recommended tightening torque (6 Nm±1).

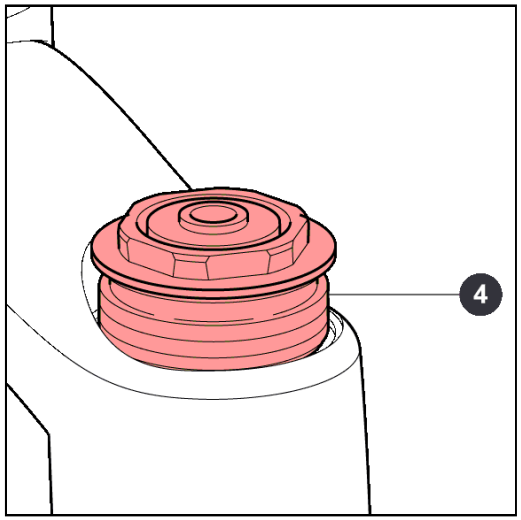


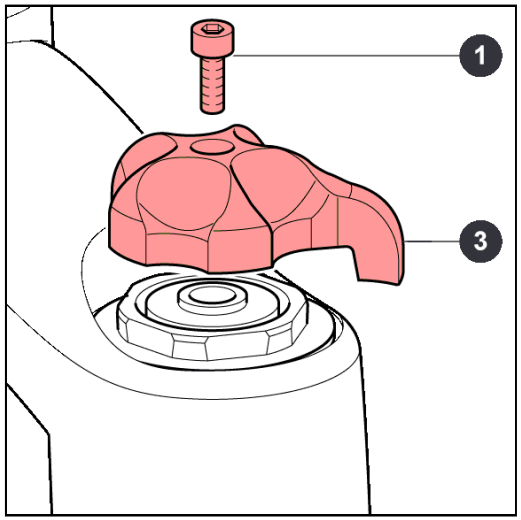


· With the 21mm socket spanner, tighten the lock cap (**4**) on the steering crown to the recommended tightening torque (20 Nm ±1).

· Fit the ETA control lever (**3**) and screw (**1**).

· Using the 2mm Allen wrench, tighten screw (**1**) to the recommended tightening torque (2 Nm ± 0.5).





REBOUND ADJUSTMENT

ETA (TRAVEL LIMITING DEVICE)

REBOUND ADJUSTMENT

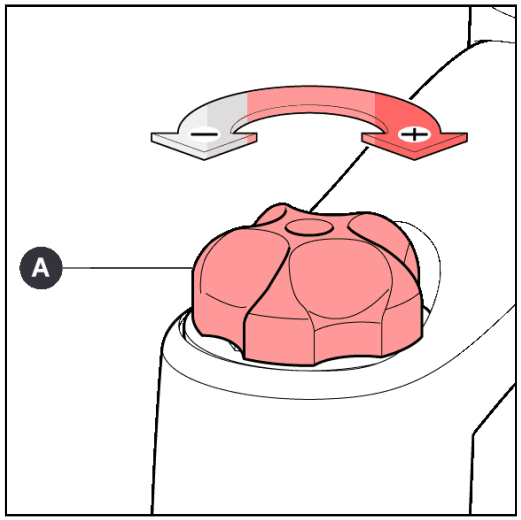
With the adjuster (**A**), at the top of the right leg, you can adjust the rebound damping.

Turning the adjuster modifies the hydraulic configuration of the internal valves and lets more or less oil flow through.

· Turning the adjuster clockwise increases the hydraulic damping making the fork slower during the rebound phase.

· Turning the adjuster counter-clockwise decreases the hydraulic damping making the fork more responsive during the rebound phase.

Do not force the adjuster (A) beyond its limit stops.



ETA (TRAVEL LIMITING DEVICE)

The ETA cartridge fitted to the left leg, allows reducing the fork rebound limiting the fork travel to 30 mm.

Turning the control (**A**) clockwise activates the ETA cartridge function.
Turning the control (**A**) counter-clockwise brings the fork back to normal function and deactivates the limiting device.

Do not use the ETA devices when riding on steep downhills. The fork would not react safely enough when hitting an obstacle.